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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/525,520

10/12/2005

Shoichi Kaneda

740675-60

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7590

06/21/2006

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EXAMINER

LE, HUYEN D

ART UNIT

PAPER NUMBER

2615

DATE MAILED: 06/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/525,520

Applicant(s)

KANEDA ET AL.

Examiner

HUYEN D. LE

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2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-9 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9 of U.S. Patent No. 6,847,139. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are claiming a multifunctional vibration actuator that comprises a magnetic circuit, a diaphragm, a suspension, a cover and a clearance between an outer surface of the magnetic circuit and an inner surface of a housing, and a ring that is fitted around an outer surface of the magnetic circuit. Claims 1-9 of U.S. Patent 6,847,139 does not claim the clearance that measures as claimed in claims 1-9 of the present invention. However, it would have been obvious to one skilled in the art to provide any range for the clearance such as the range that is greater than 0% and smaller

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than 2.5% of the inside radius of housing or greater than 0 mm and smaller than 0.2 mm for better adjusting the frequency bandwidth in the device.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakai (U.S. 6,850,138).

Regarding claim 1, Sakai teaches a vibration actuator that comprises a magnetic circuit including a yoke with a pole piece (1) at a center thereof, a plate (3) and a ring magnet (2), a gap, a diaphragm (9), a suspension (5) including a plurality of spring arms (figure 2A), and a substantially cylindrical housing (12). Sakai further teaches a cover (14, figure 3B), an air passage hole (13) and a clearance between an outer surface of the magnetic circuit and an inner

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surface of the housing (12, figures 1A, 1B, 3A, 3B, 4, 5, 11). However, Sakai does not specifically teach the radius of the clearance as claimed.

As shown from the drawings, Sakai does estimate a small clearance between an outer surface of the magnetic circuit and an inner surface of the housing. Further, Sakai does not restrict to the size for the clearance between the magnetic circuit and the housing (col. 4, lines 36-41); it therefore would have been obvious to one skilled in the art to provide any range for the radius of the clearance such as the range that is greater than 0% and smaller than 2.5% of the inside radius of the housing for better preventing the magnetic circuit device from being exceedingly displaced in the radial direction and for providing a better interval and space between the magnetic circuit and the housing.

Regarding claim 3, Sakai shows a through hole in the magnetic circuit (see the through hole for the shaft (11, 11a).

4. Claims 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuyama (U.S. 6,570,993).

Regarding claim 5, Fukuyama teaches a vibration actuator that comprises a magnetic circuit having a pole piece (10), a plate (12) and a magnet (11), a magnetic gap, a diaphragm (8), a suspension (14) including a plurality of spring arms (figures 1(B) and 4), and a housing (9). Fukuyama further teaches a cover (9a), an air passage hole (figures 1(A) 1 (B) and 4) and a clearance (20) between an outer surface of the magnetic circuit and an inner surface of the housing (col. 3, lines 29-42). Fukuyama does not specifically teach the radius of the clearance as claimed.

However, Fukuyama does estimate a small clearance between an outer surface of the magnetic circuit and an inner surface of the housing (col. 3, lines 29-36); it therefore would have been obvious to one skilled in the art to provide any range for the radius of the clearance such as the range that is greater than 0% and smaller than 2.5% of the inside radius of the housing for better providing an elastic deformation range of the suspensions.

Fukuyama does not specifically teach a substantially cylindrical housing as claimed. However, Fukuyama does estimate a cylindrical shape in the inside housing; it therefore would have been obvious to one skilled in the art to provide any shape for the housing (9) of Fukuyama such as a cylindrical shape for better fitting to any communications device.

Regarding claims 6-9, Fukuyama teaches a vibration actuator that comprises a movable part including a magnetic circuit (10, 11, 12), a voice coil (18), a diaphragm (8), a suspension (14) and a housing (9). Fukuyama further teaches a clearance (20) between an outer surface of the magnetic circuit and an inner surface of the housing (col. 3, lines 29-42). Fukuyama does not specifically teach the radius of the clearance as claimed.

However, Fukuyama does estimate a small clearance between an outer surface of the magnetic circuit and an inner surface of the housing (col. 3, lines 29-36); it therefore would have been obvious to one skilled in the art to provide any range for the radius of the clearance such as the range that is greater than 0 mm and smaller than 0.2 mm for better providing an elastic deformation range of the suspensions.

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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUYEN D. LE whose telephone number is (571) 272-7502. The examiner can normally be reached on 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, SINH TRAN can be reached on (571) 272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



HL
June 19, 2006



HUYEN LE
PRIMARY EXAMINER